AGENDA ITEM E-10

CITY OF LODI
COUNCIL COMMUNICATION

AGENDA TITLE: Adopt Resolution Awarding a Contract to R.W. Beck, Inc. to Perform Comprehensive Electric Systems Study **($95,800)** (EUD)

MEETING DATE: April **15,2009**

PREPARED BY: Electric Utility Director

RECOMMENDED ACTION: Adopt a resolution awarding a professional services contract to R.W. Beck, Inc. of Sacramento, CA to perform power systems studies on Lodi's 12kV electric distribution system, including substations and transmission lines in an amount of not to exceed $95,800.

BACKGROUND INFORMATION: Sound utility practice is to perform comprehensive power system studies regularly (every three to five years). Such studies verify that existing components of the network are within safe operational limits. The last comprehensive power system study for the City's power grid was conducted in 2001, It needs to be updated.

As a result, the Electric Utility Department (EUD) advertised bid documents on November 13, 2008 as per prior Council authorization. On December 10, 2008, six power system consulting engineering firms asked for the bid documents and one (R.W. Beck) actually submitted a bid of $95,800. Inquiries to other bidders found that they focused on larger transmission type studies, did not have experience with the software modeling software specified in the RFP, or were not interested in the work at this time.

Staff reviewed the proposal from R.W. Beck and found it to be compliant to the bid documents and scope of work. R.W. Beck has been conducting various power systems studies at extra high voltage, medium and low voltage in the transmission and distribution systems. The firm also has expertise and experience in the business side of the electric utility industry. EUD has previously utilized their services, skills, and expertise which gives them familiarity of the City's contractual and work processes. The professional services proposal from R.W. Beck covers: the City's existing 12kV electric distribution system, four **(4)** substation facilities (Henning, Industrial, Killelea and McLane), and the 60kV transmission lines including the interconnection with PG&E.

R.W. Beck will submit comprehensive technical reports, data, figures, recommendations, system configurations and models in electronic CD and/or DVD format at the conclusion of the studies. The database received will enable EUD to perform most future distribution system studies internally.

Staff considered the reasonableness of R.W. Becks quoted price since it was the only bidder. Based on past pricing experience for this type of comprehensive study, the proposed price was deemed to be reasonable.

APPROVED: _____
Blair King, City Manager

Performing comprehensive and detailed power systems study and analysis of the City's existing electric distribution system and electrical infrastructure will minimize nuisance power outages and increase reliability of electric service. As a result, staff recommends awarding a professional services contract to perform power systems studies to R.W. Beck Company in the amount of not to exceed $95,800. R.W. Beck shall complete these services within five months from the date of "Notice to Proceed.

FISCAL IMPACT: Not to exceed $95,800

FUNDING: Fiscal Year 2008-09 Budget Account No. 160652.7323 – Professional Services with fund transfers from Accounts 160611, 160612, 160613 and 160652 Object Codes.

Jordan Ayers
Deputy City Manager/Internal Services Director

George F. Morrow
Electric Utility Director

Prepared By: Demy Bucaneg, Jr., P.E., Assistant Electric Utility Director
Weldat Haile. P.E., Senior Power Engineer

GFM/lst

Attachments

PROFESSIONAL SERVICES AGREEMENT FOR THE CITY OF LODI BY R W. BECK, INC.

ENGINEERING SERVICES *for the* POWER SYSTEMS STUDIES

R.W. Beck, Inc. (RW Beck) agrees to enter into a Professional Services Agreement (Agreement) with the City of Lodi to perform power systems studies on existing 12kV electric distribution systems, four (4) substations, and 60kV transmission lines as more fully described in RW Beck's proposal entitled, "Power Systems Studies" dated December 10, 2008 and in the Request For Proposal (RFP) dated November 8, 2008. RW Beck agrees *to* perform the work, as outlined in the December 10" proposal, for a fixed fee **of** not-to-exceed Price of $95,800. RW Beck will not exceed this price unless it first receives written approval from the City of Lodi to increase the approved amount. As outlined in RW Becks December 10th proposal, the services under this Agreement shall be performed and completed in approximately five (5) calendar months after receiving Notice-to-Proceed. Copy of RW Beck's "Power Systems Studies" proposal, including the Cover Letter, Sections 1 through 5 dated December 10, 2008. and the RW Beck email dated March 16,2009 from Steven Rupp are attached to and **is** a part of the agreement.

RW Beck shall furnish a certificate *of* insurance to the City of Lodi in accordance with Section 5.413, "Insurance Requirements for Contractor" (Public Liability and Property Damage Insurance) and Section 5.414, "Compensation Insurance" as well as the Hold Harmless condition of section 5-409, "Responsibility for Damage" at the time the signed agreement **is** returned *to* the City. Copies of each section referenced above are attached to and is a part of the agreement.

R. W. BECK. INC.
An Washington Corporation

By:_____
John Bakken

Title: Project Manager
Date:
Address: 1001 Fourth Avenue. Suite 2500
Seattle, Washington, 98154-1004

CITY OF LODI. CALIFORNIA
A California Municipal Corporation

By:_____
Blair King

Title: City Manager
Date:
Address: 221 W. Pine Street
Lodi, California 95240

Approved as to form:

_____
D. Stephen Schwabauer
City Attorney

Attest:

_____
City Clerk

5-409 Responsibility for Damage The City of Lodi, the City Council, all officers and employees or agent shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any material or equipment used in performing the work; or for injury or damage to any person or persons, either work personnel or the public; for damage to adjoining property from any cause whatsoever during the progress of the work or any time before final acceptance with the exception of those injuries or damages arising out of the active negligence of the City of Lodi or its agents, officers or employees.

Contractor shall indemnify and save harmless the City of Lodi, the City Council, elected and appointed Boards, Commissions, all officers and employees or agents from any suits, claims or actions brought by any person or persons for or on account of any injuries or damages sustained or arising from the services performed under this Agreement, but only to the extent caused by the negligent acts, errors or omissions of the Contractor and except those injuries or damages arising out of the active negligence of City or its agents, officers or employees.. The City Council may retain as much of the money due the Contractor as shall be considered necessary until disposition has been made of such suits or claims for damages as aforesaid.

5-413 Insurance Requirements for Contractor The Contractor shall take out and maintain during the life of this contract, insurance coverage as listed below. These insurance policies shall protect the Contractor and any subcontractor performing work covered by this contract from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from Contractor's operations under this contract, whether such operations be by Contractor or by any subcontractor or by anyone directly or indirectly employed by either of them, and the amount of such insurance shall be as follows:

1. COMMERCIAL GENERAL LIABILITY

   Per Occurrence

   $1,000,000 Property Damage -

   Personal & Adv Injury
   $2,000,000 General Aggregate

2. COMPREHENSIVE AUTOMOBILE LIABILITY

   $1,000,000 Combined Single Limits

NOTE: Contractor agrees and stipulates that any insurance coverage provided to the City of Lodi shall provide for a claims period following termination of coverage which is at least consistent with the claims period or statutes of limitations found in the California Tort Claims Act (California Government Code Section 810 et seq.).

A copy of the certificate of insurance with the following endorsements shall be furnished to the City:

(a) Additional Named Insured Endorsement
Such insurance as is afforded by this policy shall also apply to the City of Lodi, its elected and appointed Boards, Commissions, Officers, Agents and Employees as additional named insureds insofar as work performed by the insured under written contract with the City of Lodi. (This endorsement shall be on a form furnished to the City and shall be included with Contractor's policies.)

(b) Primary Insurance Endorsement
Such insurance as is afforded by the endorsement for the Additional Insureds shall apply as primary insurance. Any other insurance maintained by the City of Lodi or its officers and employees shall be excess only and not contributing with the insurance afforded by this endorsement.

(c) Severability of Interest Clause
The term "insured" is used severally and not collectively, but the inclusion herein of more than one insured shall not operate to increase the limit of the company's liability.

(d) Notice of Cancellation or Change in Coverage Endorsement
This policy may not be canceled nor the coverage reduced by the company without 30 days' prior written notice of such cancellation or reduction in coverage to the City Attorney, City of Lodi, P.O. Box 3006, Lodi, CA 95241.

(e) Contractor agrees and stipulates that any insurance coverage provided to the City of Lodi shall provide for a claims period following termination of coverage which is at least consistent with the claims period or statutes of limitations found in the California Tort Claims Act (California Government Code Section 810 et seq.).

"Claims made" coverage requiring the insureds to give notice of any potential liability during a time period shorter than that found in the Tort Claims Act shall be unacceptable.

5-414 Compensation Insurance The Contractor shall take out and maintain during the life of this contract, Worker's Compensation Insurance for all of Contractor's employees employed at the site of the project and, if any work is sublet, Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this contract at the site of the project is not protected under the Worker's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide insurance for the protection of said employees. This policy may not be canceled nor the coverage reduced by the company without 30 days' prior written notice of such cancellation or reduction in coverage to the City Attorney, City of Lodi, P.O. Box 3006, Lodi, CA 95241.

CITY OF LODI

ELECTRIC UTILITY DEPARTMENT

GEORGE F. MORROW, DIRECTOR

1331 S HAM LANE

LODI, CALIFORNIA 95242-3995

(209) 333-6762

FAX (209) 333-6839

November 8, 2008

To Prospective Proposers

Subject: **Request for Proposal (RFP) for Power Systems Studies on the Existing 12kV Electric Distribution Systems, Four (4) Substations, and 60kV Transmission Lines**

The City of Lodi hereby invites sealed proposals to provide engineering services to perform power systems studies on the existing 12kV electric distribution systems, four (4) substations, and 60kV transmission lines. Each proposal shall be in accordance with this notice and specifications on file and available from the Engineering & Operations Division, City of Lodi Electric Utility Department, 1331 South Ham Lane, Lodi, California 95242, (209) 333-6762. No proposal will be considered unless it is submitted on a format according to the 'ORGANIZATION OF PROPOSAL' Section of this RFP document.

Sealed proposals shall be delivered to the Budget Manager at the City Hall Annex, 300 West Pine Street, Lodi, CA 95240 (P.O. Box 3006, Lodi, CA 95241-1910) on or before

December 10, 2008, at 11:00 a.m.

At that date and hour said sealed proposals will be publicly opened and read in the Public Works Conference Room, City Hall, 221 West Pine Street, Lodi, California. Proposers or their authorized representatives are invited to be present.

Please submit detailed proposal and your standard service agreement for review and approval. If there are any questions regarding this request for proposal, you may contact me at (209) 333-6811, by email at dbucaneg@lodielectric.com or Weldat Haile of my Staff at (209) 333-6763, by email at whaile@lodielectric.com. Arrangement for site inspection may be made by calling Mr. Haile at least 24 hours in advance of planned inspection.

Demetrio S. Bucaneg, Jr. -PE
Assistant Electric Utility Director
Engineering & Operations Division
City of Lodi Electric Utility Department

Request for Proposal

for

POWER SYSTEMS STUDIES

The Engineering & Operations Division, City of Lodi Electric Utility Department is inviting qualified consulting firms to provide engineering services to perform power systems studies on the existing 12kV electric distribution systems, four (4) substations, and 60kV transmission lines. The following Request for Proposals (RFP) outlines the background, scope of work and proposal requirements for the services.

BACKGROUND

Growth within the City between year 2001 and 2006 increased significantly the electrical loads being served by the existing electric distribution system. The summer peak load in 2001 was approximately 120MW. In 2006, load crested to a new high of approximately 148MW.

In previous years of operations, the City's electric distribution system experienced a number of nuisance device trippings of unknown causes, prolonged outages due to several protective devices being activated at the same time at different phase circuits, and widespread power shutdowns caused by main protective relays operating at the substation facility. Troubleshooting of faulted lines proved to be difficult and needed more time to investigate before power could be restored. Some overhead capacitor banks were switched-off and left in place and a number of capacitor banks were removed from service. Others were switched-on continuously and had a number of faulted capacitor banks.

Standard power utility practices dictate the performance of comprehensive and detailed power system analyses and evaluation of the existing facilities/systems regularly (every two to three years). This is to verify and confirm that existing limits, as well as various electric distribution, substation and transmission components, are within the safe operational limits to serve electrical loads. Continued checks and adjustments enhance the reliability and the security of continuous power service to the customer and minimize prolonged power outages. The last comprehensive power system study for the City's power grid was conducted in 2001. It needs to be updated.

SCOPE OF WORK

The request for proposal will cover the power system studies of the City's existing 12kV electric distribution system, four (4) substation facilities (Henning, Industrial, Killelea and McLane), and the 60kV transmission lines including the interconnection with PG&E. This task will be executed using MILSOFT Software. The scope of work for this engineering services to provide comprehensive power systems studies will encompass, but not be limited to, the following task areas:

1. Database creation, setup, configuration, parameter and data entries
2. Short circuit studies for at least the three-phase fault and line-to-ground fault
3. Protective relay coordination from the 60kV to the smallest fuse installed in both overhead and underground distribution system at the 480-volt system
4. Update protective device library to include all devices installed and being used throughout the City's power grid

5. Establish and standardize relay settings, fuse sizes, circuit breaker sizes and reclosers including 12kV reclosing strategy at different fault conditions
6. Voltage drop study, voltage profile and voltage support analysis for each of the more heavily loaded 12kV feeders and substation transformers
7. Evaluate the effectiveness of existing line capacitors and confirm the correct capacitor placement in the electric distribution system
8. Determine strategic location and placement of fault indicators for simplified and efficient troubleshooting
9. Undertake load flow studies at normal operating conditions and for contingency analysis at N-1 condition showing the overloaded element(s), if any
10. Complete facilities studies and three (3) sets of final reports in hard and electronic copies

ORGANIZATION OF PROPOSAL

Prospective Proposers are furnished with one request for proposal (RFP) document. Proposals shall follow the following format:

A. Service approach narrative – This section should demonstrate an understanding of the task at hand and include a narrative describing how the Proposer would go about the work. This section will also include the methodologies and assumptions in performing the power systems and facilities studies.

B. Project team – Describe the personnel who will carry out services, and their respective responsibilities.

C. Qualifications – Provide a narrative describing how the team as a whole meets the qualifications for the services. Include a list of prior relevant projects, power utilities, and contact persons where MILSOFT Software was used.

D. Submittals & Report – This section should summarize the submittals, final report structure, attachments, figures, data, tables, drawings, etc. It should include also schedule of preliminary and final submittals and the required number of copies and the respective formats of each particular submittal.

E. Proposal & Project Schedule – Provide the proposed project schedule to commence within 15 days after receipt of 'Notice to Proceed' from the City. It should include in detail the proposed cost in performing the tasks as described in the 'Scope of Work', and a summarized engineering/consulting fee structure and other surcharges, and/or details as appropriate. **Proposal costs shall be individually itemized to correspond with each task areas as described in Items 1 through 10 of the 'Scope of Work'.** Note: Refer also to the 'Additional Terms And Conditions' of this request for proposal.

F. Signatures - The proposal must be signed with the full name and address of the proposer, by an authorized representative of the company with all the information below.

i. Name of company
ii. Address
iii. Authorized signature
iv. Name
v. Title
vi. Telephone No.
vii. Fax No.
viii. Date

G. Note - The City of Lodi reserves the right to reject any or all proposals, to waive any informality in any proposal, to accept other than the lowest proposal, or not to award the project.

PROPOSAL SUBMISSION

A. The Budget Manager will receive sealed proposals at the following address until

11:00 am, Wednesday, December 10, 2008.

B. Proposals shall be submitted under sealed cover, plainly marked

Proposal – Power Systems Studies
RFP Opening - December 10, 2008.

Proposals, which are not properly identified, may be disregarded. Proposals, which are not received by 11:00am, Wednesday, December 10, 2008 will be returned to the Proposer unopened.

RFPs shall be submitted

To: Lodi City Council
c/o –Budget Manager

(If delivered by FedEx, UPS, or courier):	(If delivered by mail):
300 West Pine Street	P O Box 3006
Lodi CA 95240	Lodi CA 95241-1910

RFP OPENING

A. At 11:00 A.M., Wednesday, December 10, 2008, or as soon as possible thereafter, in the Public Works Conference Room, City Hall, 221 West Pine Street, Lodi, California, proposals will be publicly opened and read. Proposers or their authorized representatives are invited to be present.

SELECTION PROCESS

Complete proposals will be evaluated based on the information submitted. This will permit a recommendation to the City Council for contract award. The following equally weighted criteria will be used to evaluate submitted proposals:

A. The likelihood of the proposed approach to produce the desired results.

B. Qualifications of the Proposer.

C. The value offered by the Proposer's price in relation to the proposed approach.

REJECTION OF PROPOSALS

The City of Lodi reserves the right to reject any and all proposals and to solicit new proposals with modified terms and conditions. It also reserves the right to waive any informality in connection with the proposals.

CONTRACT AWARD

1. The City of Lodi reserves the right to reject any or all proposals, to waive any informality in any proposal, to accept other than the lowest proposal, or not to award the project.

2. If there will be a tie in the submitted proposals, the tie will be broken by a coin toss, conducted by the Budget Manager. Tie proposers will be notified and may be present.

3. In all circumstances, including receipt of alternative proposals, the City Council reserves the right to select the proposal most advantageous to the City.

4. The award, if made, will be made within forty five (45) days after the opening of the proposals.

GENERAL PROVISIONS

5-409 Responsibility for Damage The City of Lodi, its elected and appointed boards, commissions, officers, agents and employees shall not accept responsibility for any loss or damages that occur during the scope of work to the work or any part thereof; or for any material or equipment used in performing the work; or for injury or damage to any person or persons, either work personnel or the public; for damage to adjoining property arising from or related to Contractor's negligence or willful misconduct during the progress of the work or any time before final acceptance.

Contractor shall indemnify and save harmless the City of Lodi, the City Council, elected and appointed Boards, Commissions, all officers and employees or agents from any suits, claims or actions brought by any person or persons for or on account of any injuries or damages sustained or arising from the services performed under this Agreement, but only to the extent caused by the negligent acts, errors or omissions of the Contractor and except those injuries or damages arising out of the active negligence of City or its agents, officers or employees. The City of Lodi may retain as much of the money due the Contractor as shall be considered necessary until disposition has been made of such suits or claims for damages as aforesaid.

5-413 Insurance Requirements for Contractor The Contractor shall provide proof of insurance to be maintained during the life of this contract as listed under General Liability and Automobile Liability coverage listed below. These insurance policies shall protect the Contractor and any subcontractor performing work covered by this contract from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from Contractor's operations under this contract, whether such operations be by Contractor or by any subcontractor or by anyone directly or indirectly employed by either of them, and the amount of such insurance shall be as follows:

1. COMMERCIAL GENERAL LIABILITY

   Per Occurrence
   $1,000,000 Property Damage

   Personal & Adv Injury
   $2,000,000 General Aggregate

2. COMPREHENSIVE AUTOMOBILE LIABILITY

   $1,000,000 Combined Single Limits

NOTE: Contractor agrees and stipulates that any insurance coverage provided to the City of Lodi shall provide for a claims period following termination of coverage which is at least consistent with the claims period or statutes of limitations found in the California Tort Claims Act (California Government Code Section§ 810 et seq.).

A copy of the certificate of insurance with the following endorsements shall be furnished to the City of Lodi:

(a) Additional Named Insured Endorsement with Primary Wording

Such insurance as is afforded by this policy shall also apply to the City of Lodi, its elected and appointed Boards, Commissions, Officers, Agents and Employees as additional named insured, insofar as work performed by the insured under written contract with the City of Lodi.

(This endorsement shall be on a form furnished to the City of Lodi and shall be included with Contractor's policies.)

Wording: Such insurance as is afforded by the endorsement for the Additional Insureds shall apply as primary insurance. Any other insurance maintained by the City of Lodi or its officers and employees shall be excess only and not contributing with the insurance afforded by this endorsement.

(c) Severability of Interest Clause

The term "insured" is used severally and not collectively, but the inclusion herein of more than one insured shall not operate to increase the limit of the company's liability.

(d) Notice of Cancellation or Change in Coverage Endorsement

This policy may not be canceled nor the coverage reduced by the company without 30 days' prior written notice of such cancellation or reduction in coverage to the City Attorney, City of Lodi, P.O. Box 3006, Lodi, CA 95241.

(e) Contractor agrees and stipulates that any insurance coverage provided to the City of Lodi shall provide for a claims period following termination of coverage which is at least consistent with the claims period or statutes of limitations found in the California Tort Claims Act (California Government Code Section 810 et seq.).

"Claims made" coverage requiring the insureds to give notice of any potential liability during a time period shorter than that found in the Tort Claims Act shall be unacceptable.

5-414 Workers' Compensation Insurance The Contractor shall provide proof of and maintain during the life of this contract, Worker's Compensation Insurance for all Contractor's employees employed at the site of the project and, if any work is Subcontracted, Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this contract at the site of the project is not protected under the Worker's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide insurance for the protection of said employees. This policy may not be canceled nor the coverage reduced by the company without 30 days' prior written notice of such cancellation or reduction in coverage to the City Attorney, City of Lodi, P.O. Box 3006, Lodi, CA 95241.

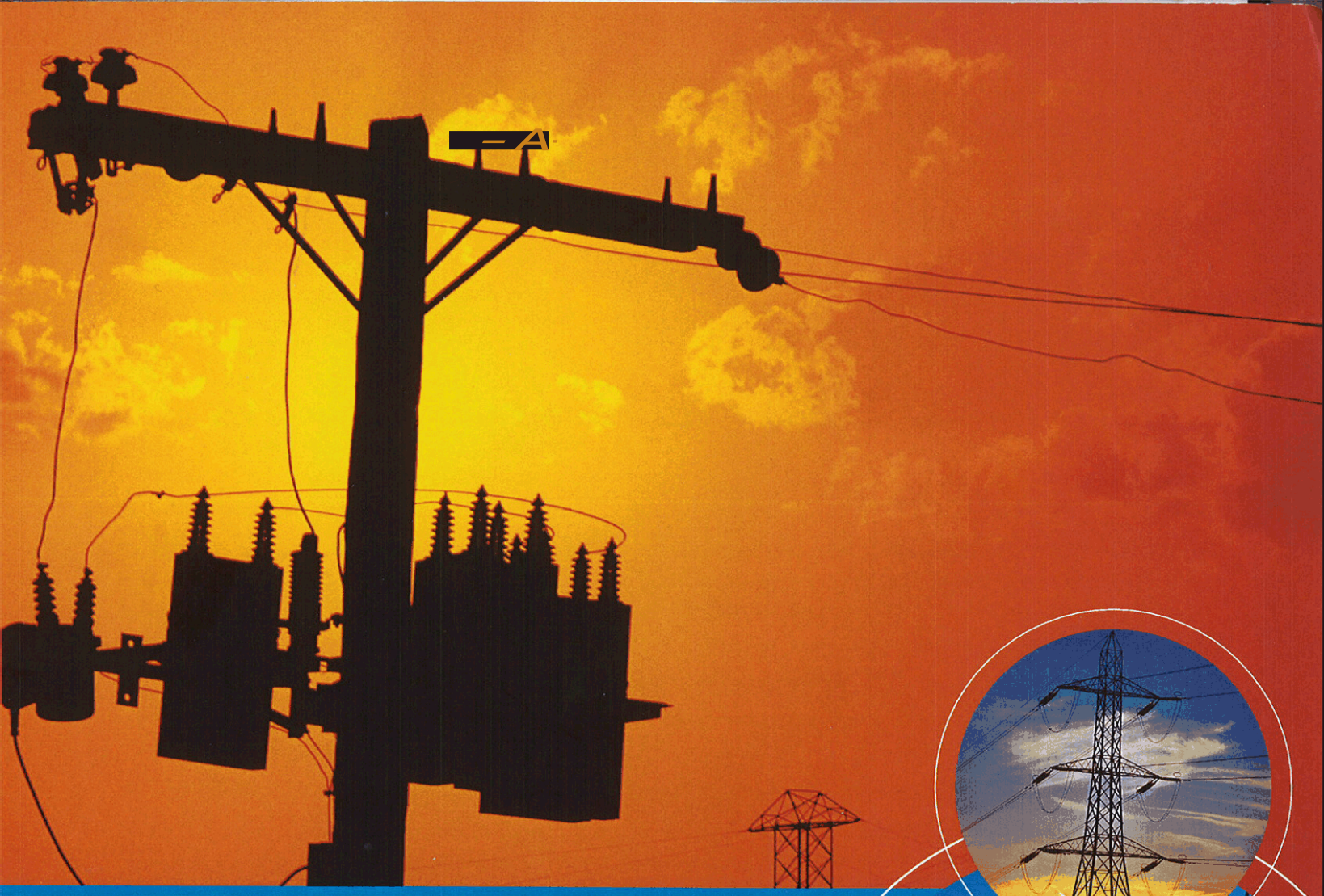
ADDITIONAL TERMS AND CONDITIONS

1. The successful proposer will schedule within 15 days from receipt of 'Notice to Proceed' a coordination meeting between the successful proposer and the City of Lodi to start the project. Meeting will be held at the E&O Conference Room, 1331 S. Ham Lane, Lodi, CA 95242. Time and duration of meeting will be established coordinated by the successful proposer.
2. Consultant shall indemnify and save harmless the City of Lodi, the City Council, elected and appointed Boards, Commissions, all officers and employees or agents from any suits, claims or actions brought by any person or persons for or on account of any injuries or damages sustained or arising from the services performed under this Agreement, but only to the extent caused by the negligent acts, errors or omissions of the Consultant and except those injuries or damages arising out of the active negligence of City or its agents, officers or employees.

3. All information, data, diagrams, schematics, equipment and device settings and ratings, object/programming codes, maps, operational/engineering parameters, guidelines and procedures are proprietary to the City of Lodi and shall be kept strictly confidential and shall not be shared and disclosed without any written authorization from the City of Lodi. All of these shall be returned and/or submitted to the City of Lodi after the completion of this project.

4. If the new relay settings will result to nuisance trippings/outages and miscoordinated operation of protective devices, the successful proposer shall be responsible in evaluating the events and mitigate the issue/s in a timely and effective manner consistent with the power utility standards and practices.

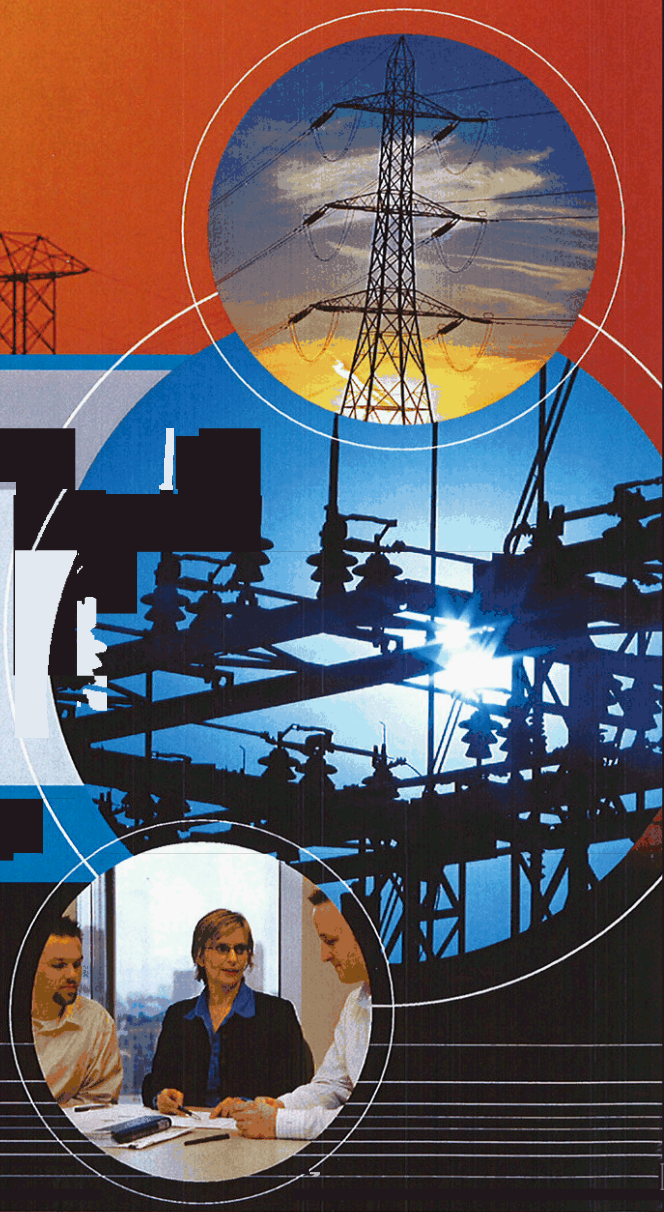
5. It is agreed that in the event of any litigation arising hereunder, the proposer at the request of the City of Lodi shall submit to the jurisdiction of any court of competent jurisdiction within the County of San Joaquin, State of California, and will comply with all, requirements necessary to give such court jurisdiction, and that all matters arising hereunder shall be determined in accordance with the law and practice of such court. It is further agreed that service of process in any such litigation may be made in the manner provided for in said code for service upon a person outside of the State of California.



PREPARED FOR:
City of Lodi Electric Utility Department

Power Systems Studies

PROPOSAL | December 2008



R·W·BECK

Mind Powered: Insight with Impact.

December **10,2008**

Demetrio S. Bucaneg, Jr., P.E.
Assistant Electric Utility Director
City of Lodi Electric Utility Department
1331 S. Ham Lane
Lodi, CA 9522-3995

Subject: RFP for Power System Studies on Existing 12 kV Electric Distribution Systems, Four Substations, and 60 kV Transmission Lines

Dear Mr. Bucaneg:

The City of Lodi Electric Utility Department (City) has identified the need to complete selected Power Systems Studies (Studies) for its existing electric facilities to evaluate system performance and improve reliability. The City has requested engineering services to provide a comprehensive evaluation of the following items:

- The existing facilities' capacity to serve the significant growth seen since 2001
- The number of nuisance trips and mis-coordination of system protective devices, which has resulted in prolonged outages
- The effectiveness of the existing distribution line capacitors to provide the required VAR correction

R. W. Beck has prepared this proposal based on our understanding gained through previous discussions, as well as the City's Request for Proposals. We are qualified on all issues related to the proposed Studies, and as a result are intimately familiar with the operation and planning issues that are unique to the City. Our proposed team offers an approach to provide the requested Power System Studies, so that we can effectively operate as a productive extension of your staff to efficiently complete. the proposed tasks without burdening the City staff. As part of this project, our team will:

- Develop engineering models of the transmission and distribution systems using software from ASPEN Inc. and Milsoft Utility Solutions, Inc.
- Evaluate system performance under normal and N-1 contingencies at peak loading conditions
- Prepare a protective device coordination study for the transmission and distribution systems, including: fault current calculations and the evaluation of device capabilities, establishing device setting and application standards, and updating the City's device library
- Evaluate existing capacitor placement and recommend adjustments to enhance overall effectiveness
- Propose locations for fault indicators to improve outage response and restoration times
- Provide copies of reports, data, figures, attachments, and models in electronic CD and/or DVD format to the City at the conclusion of the Studies

Based in R. W. Beck's Pasadena, California, office, Project Manager John Bakken will be responsible for primary communication between the City and the R. W. Beck team, and is available to respond to any inquiry in a timely fashion. Should you have questions regarding our proposal, please contact Mr. Bakken at (206) 695-4784 and jbakken@rwbeck.com or Steve Rupp at (916) 614-8246 and sruoD@rwbeck.com. We look forward to the opportunity to assist the City of Lodi Electric Utility Department with this important project.

Sincerely,
R. W. BECK, INC.

John Bakken
Project Manager

Steve Rupp
Client Liaison

R. W. Beck will apply a team approach and work closely with the City of Lodi, Electric Utility Department (City) staff to develop the requested Power System Studies (Studies). This section defines the project goals and deliverable products proposed by R. W. Beck to meet the stated needs of the City. Also provided is our approach, which is based on the lessons learned by our project team providing similar services for similar-sized utilities. This experience-based approach provides the City a comprehensive project that can be relied upon by the City for making critical decisions regarding the performance and capability of the City's power system.

Project Goals

The following goals are to be achieved in the development of the Studies. R. W. Beck will:

- Develop engineering models to analyze the performance and capability of the transmission and distribution systems
- Identify existing system deficiencies, including equipment loading, phase-imbalance, electrical losses, voltage-drop, power factor correction, conductor loading, and reliability
- Prepare a short circuit and protective device coordination study of the existing system to address nuisance and simultaneous device tripping issues to improve system sectionalizing, reliability, and coordination of protective devices
- Evaluate the effectiveness of the existing line capacitors, and recommend changes to reduce system losses and improve the overall effectiveness of the VAR correction
- Recommend strategic locations for fault indicators to reduce outage troubleshooting effort and improve outage restoration times
- Prepare a formal report summarizing the criteria and assumptions, results of analyses, findings, and recommendations

Deliverables

R. W. Beck will provide the following to the City to assist in continuing in-house planning studies.

- Engineering model of transmission system in ASPEN (software not included)
- Engineering model of distribution system in Milsoft Utility Solutions, Inc.'s Windmil software (software not included)
- Three copies of the Power System Studies document and electronic copies of supporting information including engineering model data

Scope of Services

The project approach is developed based on a work breakdown structure that establishes tasks and their associated work products. The proposed approach envisions the following detailed tasks for the preparation of the Power System Studies for the City. Upon receipt of authorization from the City, R. W. Beck will complete the tasks proposed herein.

Task 1: Data Collection

In order to prepare for the Kick-off Meeting and accomplish the development of the Studies, the City will provide R. W. Beck copies of relevant data pertaining to the Electric System, including:

- Electronic copies of circuit diagrams showing line conductors and sizes; phasing; distribution transformer, regulator, and capacitor locations and specifications; and protection device locations and types
- To the extent the circuit diagrams are not up to date or do not contain the required data, the City and R. W. Beck will develop an approach to obtain the data from the field; if the agreed approach requires resources from R. W. Beck, the City and R. W. Beck will agree on the scope and cost of this additional task and it will be performed as Additional Services
- Copies of circuit diagrams and feeder maps, marked to show the location of existing large power and special load customers
- Historical billing for existing large power and special load customers for the last 12 months, including kW and kVAR loads
- Results of any recent field investigations concerning voltage, current and phase balance, and information on power factor of the system and distinct areas of the system
- Historical hourly metering for the power delivery point(s) for the most recent 12 months, including kW and kVAR peak loads
- Historical peak load data for the substation power transformers and breakers, including kW and kVAR loads
- Substation configuration of transformers and circuit breakers with capacity ratings
- Information on available fault current from the interconnection with PG&E
- Information related to size, type, and settings of system protective devices
- Existing overcurrent protection philosophy and sectionalizing goals
- Any other pertinent data related to the services to be performed by R. W. Beck

Task 2: Kick-off Meeting (Meeting No. 1)

R. W. Beck will meet on-site with the City to conduct a one-day meeting to discuss the following items related to the Studies:

- Basic design guidelines
- Existing overcurrent protection philosophy and sectionalizing goals
- System single-contingency reliability criteria
- Preparation of the engineering models for the 60 kV transmission and 12 kV distribution systems
- Substation and feeder load allocation
- City and R. W. Beck responsibilities and project schedule

Following the Kick-off Meeting, R. W. Beck will review the data received for adequacy and request any additional data needed to effectively execute the Studies.

Task 3: Preparation of Transmission and Distribution System Models

R. W. Beck will prepare computer engineering models of the 60 kV transmission and 12kV distribution systems for load flow, contingency analysis, protective device coordination, and the evaluation of VAR correction. The transmission model will be developed in OneLiner and Power Flow by ASPEN, Inc., and the distribution model in WindmilB from Milsoft Utility Solutions, Inc. ASPEN Oneliner and Power Flow were selected to develop the transmission model based on its reputable performance for high voltage, network system analysis. Windmil® also offers robust analysis tools, but is more focused on detailed analysis for radial distribution systems.

The engineering models will consist of a series of sections representing the transmission and distribution backbone and taps for each circuit, and the location of electric equipment such as transformers, capacitors, regulators, switches, fuses, and reclosers. All circuit elements and connectivity will be based on the existing circuit diagrams and any additional information provided by the City. The existing circuit can be delivered in any of the following electronic formats.

- ArcView Shape (.shp)
- AutoCAD DWG (.dwg)
- AutoCAD DXF (.dxf)
- MicroStation DGN (.dgn)
- TIFF (.tif)
- JPG (.jpg)
- Windows Bitmap (.bmp)

For the distribution system model, the circuit diagrams provided by the City will be used as a background in the engineering model. As a result, the engineering model will be digitized on top of the circuit diagrams, and resemble the distribution system geographically. A transformer element will be included in the model for load allocation purposes and fault current calculations.

Note: R. W. Beck can negotiate the purchase of the Windmil® software from Milsoft Utility Solutions, Inc. on the City's behalf; however, the cost of the software is not included in the project budget.

Task 4: Review New Transmission and Distribution Models On-Site (Meeting No. 2)

After the new engineering models of the 60 kV transmission and 12 kV distribution systems are developed, R. W. Beck will review the primary conductor, phasing, and circuit connectivity on-site with the City staff. Updates to the engineering model will be made based on the City staff's knowledge of the electric system.

In addition, R. W. Beck will allocate the latest peak load to the models on-site with the City staff and analytically test their performance. Load allocation for the distribution system model will be based on the distribution transformer size (kVA) indicated on the existing circuit diagrams.

Task 5: Analysis of Existing Transmission and Distribution Systems

R. W. Beck will prepare the load-flow and voltage-drop analysis results to analyze the existing electric transmission and distribution systems' ability to serve the existing peak loads based on the following criteria.

- **System Capacity Relative to Existing Load** – The existing system shall be analyzed to evaluate how well it is meeting current requirements. R. W. Beck will analyze existing bulk power delivery point(s) and distribution substations to identify facilities with insufficient capacity to serve the existing peak load. The purpose of these various analyses shall be to identify areas where immediate or significant system improvements may be necessary.

- **System Performance – A** number of factors will be used in evaluating system performance. Computer load flows, along with voltage, current and power factor measurements, will be utilized to identify particular issues related to the existing system's performance. Available metering and billing information will also be evaluated relative to the wholesale reactive billing policy and any existing system problems.
- **Reliability –** The existing system will be reviewed considering normal (N-0) and single contingency (N-1) configurations for peak loading conditions. Single contingency (N-1) is defined as the ability to maintain adequate service with the loss of a single transmission line or substation transformer.

Upon completing the existing system analysis, R. W. Beck will summarize the findings and provide the draft for review by the City.

Task 6: Short Circuit and Coordination Study

R. W. Beck will perform a protective device coordination study of the existing 60 kV transmission and 12kV distribution systems based on the following.

- Review the City's existing overcurrent protection philosophy and the existing coordination issues discussed at the Kick-off Meeting
- Revise the existing overcurrent protection philosophy to meet sectionalizing goals and apply the revised scheme to the system models
- Utilize the new models of City's transmission and distribution systems to analytically test the revised protection scheme as follows.
  - Prepare load flow and fault current analysis using the new system models
  - Review transmission, substation, and distribution system protective device interruption ratings compared to available fault current
  - Coordinate substation breaker relays with transmission overcurrent relays
  - Coordinate feeder lateral fuses and reclosers with substation breaker relays
  - Coordinate feeder lateral fuses with line reclosers
  - Review standard fuse sizes and characteristics for distribution transformers based on manufacturer's recommendations
  - Make determination of locations where additional sectionalizing devices would be advantageous
  - Adjust the overcurrent protection scheme to meet sectionalizing goals, if necessary
- Prepare a draft report with results of the protective device coordination study, which will include:
  - Summary of the overcurrent protection philosophy and standardized scheme
  - Summary of data used in the study
  - The available three-phase and line-to-ground fault currents at each transmission, substation, and distribution protective device
  - Summary comparison of maximum available fault current at each device compared to interruption capability
  - Typical time-current curves to depict the standardized coordination scheme

- Setting summary sheets showing relay data and settings
- Settings for three-phase line reclosers
- Summary of line reclosers and fuses in recommended scheme

Based on comments by the City, the draft report will be modified as necessary for delivery to the City with the Studies report.

Task 7: Capacitor Assessment

R. W. Beck will evaluate the existing capacitor placement on the distribution system based on the City's operating and planning criteria and reactive demand contract for power supply policy. The capacitor assessment will be prepared as follows.

- Review the most recent hourly power supply metering for the most recent 12 months to determine the maximum and minimum system demand and VAR requirements
- Evaluate the effectiveness of the existing line capacitors at the maximum and minimum system loads using the distribution model created in Task 3
- Recommend additional line capacitors, or the relocation of existing capacitors, to reduce system losses and improve the overall effectiveness of the VAR correction
- Recommend fixed and switched capacitor banks and locations based on maximum and minimum load requirements
- Prepare a report summarizing the capacitor assessment

Task 8: Fault Indicator Placement

This task will develop a plan for City staff to implement the installation of fault locating devices on the electric distribution system. The plan will be comprised of identifying a methodology to optimize the installation of fault indicators. The goal of the fault indicator recommendations will be the reduction of time required to locate outages, isolating the outage, and restoring electric service.

- Identify existing protective device equipment on the electric distribution systems
- Select the types of fault indicators for overhead and underground type construction
- Work with City staff to develop methodology for determining the areas to target for installing fault indicators and for determining the types of equipment that necessitate fault recorders, such as circuits exceeding the frequency and duration reliability standards, the number of customer down line of the fault indicators and recorders, and load flowing in the circuit

Task 9: Draft Power System Studies Draft Report and Review (Meeting No. 3)

The Studies report will be prepared and R. W. Beck will meet at the City's office to jointly review the document. The Report will include the following:

- Executive Summary
- Operating Criteria and Assumptions
- Analysis of Existing System
- System Coordination Study

- Capacitor Placement
- Fault Indicator Placement
- Appendices as required (which at minimum would include):
  - Load flow, voltage drop, and fault current results
  - Typical time-current curves to depict the coordination
  - Setting summary sheets showing relay data and settings
  - Settings for three-phase line reclosers
  - Circuit maps including recommendations for capacitors and fault indicators

Task 10: Preparation of Final Report

After the review of the Studies report, R. W. Beck will revise as necessary to develop the final document. R. W. Beck will provide the City's staff with three copies of the draft and final Report. Electronic files will be provided on a CD.

Task 11: Power System Studies Presentation

R. W. Beck will develop a presentation of the Studies with the City's staff for delivery to City members and Council .

Additional Services by R. W. Beck

R. W. Beck shall provide additional services as requested by the City. R. W. Beck will prepare a scope and the estimated cost of such services. Additional services may include, but are not limited to:

- Conduct additional requested meetings
- Prepare additional copies of the report
- Train on engineering analysis software
- Develop a Load Forecast
- Evaluate system performance and capacitor requirements for future loads
- Establish performance goals and benchmark reliability indices, such as SAIDI, SAIFI, and MAIFI, to measure the future performance of the electric system with the implementation of the recommended fault indicators
- Establish pilot project to measure the future performance of the electric system with the implementation of the recommended fault indicators
- Determine methodology for connection of fault recorders to the City's SCADA system
- Develop Capital Improvements Program (CIP)
- Conduct economic evaluation of expansion alternatives
- Provide ongoing maintenance and updating of system models

Services and Items to be Furnished by the City

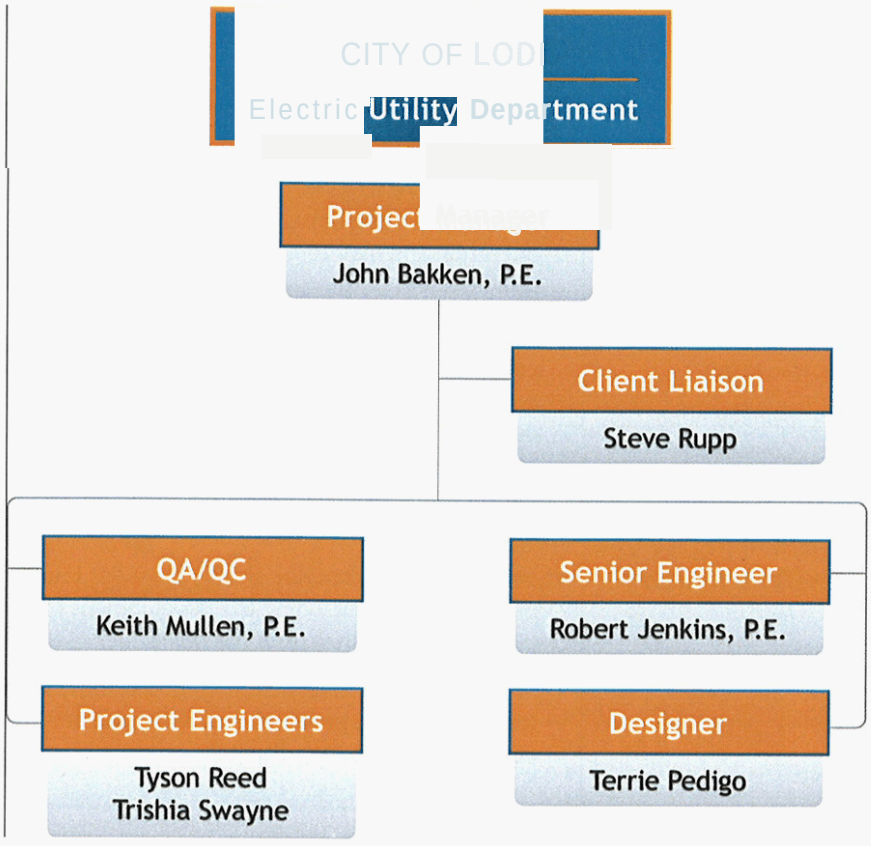
The City will:

- **Assist by making readily available, when requested, all existing records and data pertinent to the project**
- **Provide other pertinent data and information needed**
- **Provide a timely review of deliverables (draft and final)**
- **Remain available for scheduled meetings and on-site work**

At R. W. Beck, we emphasize a team approach to successful project execution, and choose our project teams to provide the maximum benefits and experience levels for our clients. Close communication and coordination among the various team members make this an efficient and cost-effective approach. We are committed to being responsive to the City's needs, managing our work to accomplish results in an efficient and timely manner.

Primary contact with the City and overall responsibility for making sure the Studies are executed in accordance with your requirements will be assigned to John **Bakken**, the Project Manager. Our team brings extensive experience in developing power system studies and the development of engineering models for electric systems across the country. In addition, **Robert Jenkins** and **Tyson Reed** will perform the system analysis and device coordination, and will assist in the development of transmission and distribution system models, and **Trishia Swayne** will be responsible for modeling analysis related to fault indicator placement. **Steve Rupp** will serve as Client Liaison, and **Keith Mullen** will provide QA/QC assistance for the system studies.

R. W. Beck has constructed the project team with the expressed purpose of completing comprehensive Power System Studies. Our deliberate and calculated approach to building our team has resulted in a group that will provide the City with cutting-edge technical knowledge and practical market insights that are at the forefront of the energy industry.



Experienced Project Team

The City requires a qualified team to conduct Studies of the City's electric transmission and distribution systems to evaluate system performance and recommend enhancements to improve reliability. The professionals introduced in the table below assemble a knowledgeable team with specific expertise in each of the elements of work necessary to complete the comprehensive studies. We are committed to applying our familiarity with local conditions and experience with similar clients to offer efficient and flexible solutions for the City.

The following table highlights each member's related expertise and qualifications. Professional resumes are provided in the Appendix.

Team Member/Role	Relevant Expertise	Summary of Qualifications
John Bakken, P.E. Project Manager	28 years industry experience • Project Management • Planning Studies • Protective Relay Applications • System Analysis and Design	• As a project manager, Mr. Bakken collaborates with clients on projects, coordinates project team activities, monitors project scopes, budgets and schedules and oversees QA/QC activities • His experience includes managing planning studies, concept development, permitting support, equipment selection, detail design development, grounding system analyses and design, insulation coordination, protective relay applications, relay setting calculations, shop drawing reviews, construction support, and preparation of testing and checkout procedures • He brings engineering experience with high voltage and extra high voltage substations, including SF6 gas-insulated stations, and has sewed as design engineer, lead electrical engineer, and project manager for numerous substation projects • He routinely carries out independent engineering reviews of electric utility systems, including condition assessment and operation and maintenance practices, in support of financing or sale of assets
Steve Rupp Client Liaison	25+ years industry experience • Management Consulting • Economics of Power Marketing • Electric System Master Plans	• Mr. Rupp leads large project teams in the development of highly complex electric system master plans that address issues such as addressing impacts of distributed generation on transmlssion and distribution systems; managing diverse stakeholder groups to reach consensus on issues and strategies affecting the utility industry; and managing engineering design and construction of electric transmission and distribution system projects • He has developed power system plans for Investor and customer-owned utilities, including the development of transmission system plans and integrated resource plans • Mr. Rupp is extensively experienced with power system analysis, load forecasting, production cost simulation, and security constrained economic dispatch

Team Member/Role	Relevant Expertise	Summary of Qualifications
Keith Mullen, P.E. **QA/QC**	*16 years industry experience* ▪ Project Management ▪ Engineering Analysis ▪ Electric Utility Design and System Planning ▪ Load/Customer Forecasting	▪ Mr. Mullen is actively engaged in the use of computer modeling to address utility operations and system expansion issues - He is experienced with the application of a variety of engineering analysis software packages related to electrical transmission and distribution systems, and is also involved with the development of engineering analysis software as an elected member of a user advisory board ▪ He applies engineering models and uses various programs to develop solutions that address system expansion plans to serve projected growth, alleviate day-to-day operating problems, and coordination issues ▪ Mr. Mullen supervises staff engineers and mapping technicians involved with developing engineering models and database applications - In this role, he has gained knowledge of interfacing various mapping software packages to engineering analysis packages
Robert Jenkins, P.E. Transmssion System Modeling and Coordination	15 years industry expertise ▪ Relay Protection and Control Systems ▪ Contract Document Review and Preparation ▪ Substation Cost Estimates and Design	▪ Mr. Jenkins creates one-line, three-line, and elementary diagrams, bills of material and relay panel elevation drawings, as well as conduit plans, circuit lists, connection diagrams, and substation grounding plans for all types of systems ▪ He develops short circuit studies and relay coordination studies, as well as relay settings and configuration files and is proficient at control system testing and troubleshooting ▪ Mr. Jenkins prepares substation cost estimates for procurement and construction of substation and distribution projects to ensure compliance with company and industry standards
Trishia Swayne Project Engineer	4 years industry experience ▪ Electric Utility Planning and Assessment ▪ System Planning Guides ▪ Master Plan Development	▪ Ms. Swayne provides assistance in electric utility design and system planning ▪ She analyzes electrical transmission and distribution systems through use of Milsoft's Utility Solutions software, WindMil, Advantica's SynerGEE Electric Software, and CYMDIST Distribution System Analysis Software ▪ As a project engineer, she aides in developing RUS-approved construction work plans, long-range planning guides, municipal long-range plans, device coordination studies, and loss studies for utility systems across the nation

Team Member/Role	Relevant Expertise	Summary of Qualifications
Tyson Reed Distribution System Modeling and Coordination	3 years industry experience ■ Power System Modeling ■ Protective Device Coordination ■ Electric Arc-Flash Studies	■ Mr. Reed brings experience in protective device coordination, arc-flash studies, and distribution planning ■ He optimizes protection schemes, develops and refines electric distribution system models, and performs engineering analysis on various platforms
Terrie Pedigo Model Development	20+ years industry experience ■ Database Design ■ GIS Systems for Electric Utilities ■ Drawing Preparation	■ Based on information from field inventory and GIS mapping systems, she develops engineering models and extracts results from the models for report documents and client use ■ Ms. Pedigo assists the T&D design teams by preparing plan and profile drawings and staking sheets, develops construction unit quantities, and verifies contractor requests for payment; she has also been active in one-on-one training with clients in the use of mapping software ■ She is an expert in database design and maintenance of GIS systems for electric utilities with primary responsibilities including drawing preparation and database development

Availability of Project Team

With approximately 600 professionals nationwide, R. W. Beck is able to seamlessly account for workload variations and efficiently staff each project according to tailored needs. The individuals introduced above have availability to assist the City with the project tasks outlined in Section 1 of this proposal.

Included in the following matrix is a listing of related project experience completed by our project team for clients with similar issues to that of the City.

Client, Project, and Reference	Summary of Services/Responsibilities
Client: City of Vineland, New Jersey Project: Electric System Master Plan Reference: Mr. Harry Maloney, P.E. Chief Engineer 415 N. West Avenue Vineland, NJ **08360**	To address its faster-than-expected growth, the City of Vineland requested R. W. Beck to develop an Electric System Master Plan and procedures for maintaining the plan internally. Our project team collaborated with the City staff to develop an engineering model of the existing distribution system using Windmil® software, a 20-year forecast, the five-year CIP and a system coordination study. Following the study, our team provided "hands-on" training for the City's staff on the Windmil® modeling software, and explain its benefits for planning and daily operations. In addition, we provided a four-day workshop to key City staff to present planning study methodologies and establish procedures for the City staff to maintain the plan as system loads and requirements change.
Client: Utilities Commission, New Smyrna Beach, Florida Project: Electric System Transmission and Distribution Planning Study Reference: Mr. Jim White, P.E. Director of Engineering 200 Canal Street New Smyrna Beach, FL 32168	An Electric Transmission and Distribution Planning Study was prepared for the Utilities Commission, City of New Smyrna Beach (UCNSB) by R. W. Beck to meet the needs of UCNSB and its customers for the next ten years. Our team met with UCNSB to develop planning and operating criteria, create a computer model for system analysis, and develop a ten-year plan to provide for upgrade and expansion of the distribution. In addition, our project team prepared contingency analysis, and protective device coordination using Windmil® from Milsoft Utility Solutions, Inc., and performed a condition assessment of UCNSB's existing peaking and backup electric power generating resources. The assessment included a site visit by R. W. Beck's personnel to review pertinent generating plant operations and maintenance records and conduct a walkthrough of the facilities.
Client: Erwin Utilities, Tennessee Project: Five-Year System Planning Study Reference: Mr. Lee Brown Manager 244 Love St. Erwin, TN **37650**	As a result of our established relationship with Erwin Utilities', R. W. Beck provided a Five-Year System Plan that identified actions to upgrade the overall quality of service to Erwin Utilities' members. We proposed a plan to provide for an orderly upgrade and expansion of the system, so that investment in the improvements and new facilities would be in step with growth in load and revenue. Team members were able to apply their extensive experience in developing and using WindMil® models to analyze Erwin Utilities' distribution system. This established model and staff training will assist Erwin Utilities in continuing in-house planning studies.

Client, Project, and Reference	Summary of Services/Responsibilities
Client: City of Pasadena Water and Power Department, California Project: Electric Distribution System Master Plan Reference: Mr. Joe Awad Director of Power Delivery Engineering and Construction Management 100 North Garfield Avenue P.O. Box 7120 Pasadena, CA 91109 (626) 744-4157	The City of Pasadena Water and Power (PWP) was facing challenges due to its aging infrastructure, residential and commercial growth requiring additional and reliable capacity, and a lack of organizational preparedness to address the next 20 years. These factors led to the need for the rapid acceleration of their Electric Distribution System Master Plan (EDSMP) implementation. Most importantly, PWP needed to develop its sustainable, organic capacity to implement the EDSMP over its 20 year horizon. R. W. Beck analyzed performance objectives through the year 2020 with the objective of achieving adequate system capacity to meet service demand; maintaining service reliability; and maximizing resources and business opportunities. This was achieved by completing an analysis of solutions and developing a plan that combined the solutions into a logical and progressive guide for making decisions over the next two decades. The team completed engineering studies to define infrastructure replacement plans, determined delivery of advanced technology solutions to increase the effectiveness of engineering, provided on-site project management and comprehensive engineering support, implemented enterprise project management and work management systems, and provided project management training for the City.
Client: Madisonville Municipal Water and Light, Kentucky Project: System Studies, Mapping, and Modeling Reference: Mr. Jim Asbury Superintendent 37 East Center Street Madisonville, KY 42431-0704 (270) 824-2130	Madisonville Municipal Water and Light collaborated with R. W. Beck to update their system map and model to prepare a Five-Year System Plan. Our team performed the following tasks for Madisonville Municipal Water and Light: update system maps based on the latest changes to the electric facilities; update the existing coordination study to solve system issues such as nuisance tripping and fuse mis-coordination; and develop a load forecast and Five-Year System Plan. In addition, our project team converted the existing electronic maps into an AutoCAD Map system to take advantage of the AM/FM functionality, and provided several hours of specialized on-site AutoCAD training. As a result, Madisonville personnel were able to produce system operating maps and truck maps for internal use.

Client, Project, and Reference	Summary of Services/Responsibilities
Client: Grayson Rural Electric Cooperative, Kentucky Project: System Planning and Modeling Reference: Mn. Carol Fraley President and CEO **109 Bagby** Park Grayson, KY **41143** **(606) 474-5136**	Throughout our partnership for more than **10** years, Grayson Rural Electric Cooperative (GRECC) has partnered with R. W. Beck to provide system planning reports including both long range plans and construction work plans. Milsoft's WindMil® load flow software is used for the system analysis at existing and projected loads. Recommended improvements have included new substations, feeders, and regulators as well as conductor upgrades. In addition to the updated system planning reports, R. W. Beck recently completed a Global Information System (GIS) project where GRECC's old paper maps were converted to electronic format. We also digitized a detailed model that is tied to other information systems within the utility. This flagship project for the utility provides a foundation for the future expansion of their GIS system. GRECC is currently using the information utility-wide for more efficient operations.
Client: Princeton Electric Plant Board, Kentucky Project: Five-Year System Plan Reference: Mr. John Humphries Manager 304 East Legion Drive Princeton, KY **42445** **(270) 365-2031**	Over a number of years, Princeton Electric Plant Board (PEPB) has requested several Five-Year Plans be prepared by R.W. Beck to identify the capital improvements needed to serve projected growth. Recently, the Five-Year Plan included the evaluation of a new interconnection and the integration of the proposed diesel peaking plant on its distribution system by our team. The Five-Year Plan provided PEPB with budget projections to be included in the municipal bond issue the following spring. R. W. Beck applied a team approach to working closely with the PEPB staff to develop the Five-Year Plan that met not only the needs of PEPB, but also the needs of its customers. Through our engineering analysis, we developed an engineering model of distribution system developed using Milsoft Utility Solutions, Inc.'s Windmil® software, along with substation and feeder load forecast spreadsheet templates. We provided PEPB with a System Plan document that included assumptions, analyses, and a five-year construction plan, and an existing system Capacitor Placement Study. Included in the Plan were cost estimates for the five-year capital requirements to achieve the construction plan.

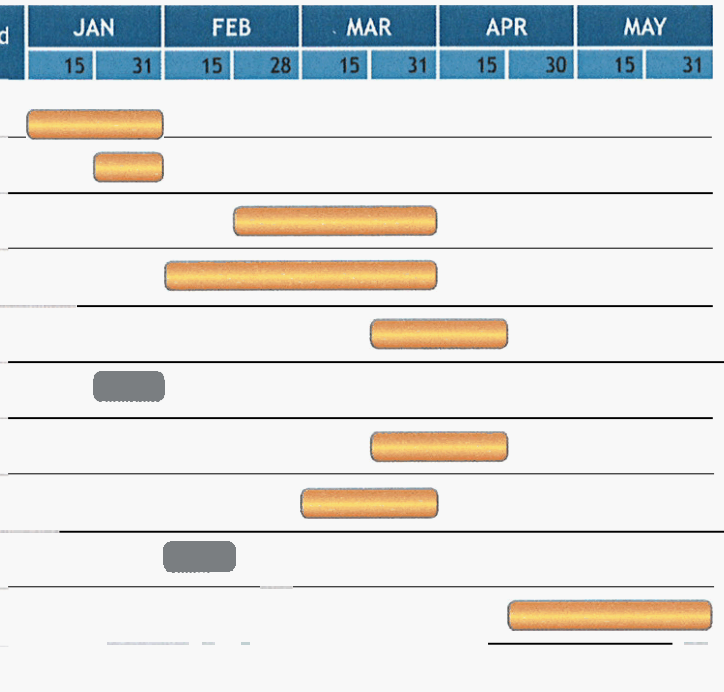
R. W. Beck will submit three hardcopies of the Studies Report to the City, including draft and final reports, in accordance with the City's request. The Report will be prepared in Microsoft Word and include the following:

- Executive Summary
- Operating Criteria and Assumptions
- Analysis of Existing System
- System Coordination Study
- Capacitor Placement
- Fault Indicator Placement
- Appendices as required (which at minimum would include):
  - PDF copies load flow, voltage drop, and fault current results
  - PDF copies of typical time-current curves to depict the coordination
  - Setting summary sheets in Excel showing relay data and settings
  - Settings summary sheets in Excel for three-phase line reclosers
  - Circuit maps in AutoCAD or ESRI including recommendations for capacitors and fault indicators

An electronic copy of the final report, circuit diagrams, spreadsheet templates, and engineering model database files will be provided to the City on a CD or a DVD.

Included in the following table is a project schedule outlining the tasks the project team will complete for the City in completing the comprehensive Studies. Specific services have been broken down into Tasks One through Ten, as outlined in the City's Request for Proposal.

	TASKS	Proposal Tasks	Estimated Cost
1	Develop Transmission and Distribution Models	1, 2, 3 & 4	$22,000
2	Perform Short Circuit Studies	1, 2 & 6	$2,000
3	Evaluate Protective Device Coordination	1, 2 8 6	510,700
4	Update Protective Device Library	1, 2 & 6	$2,000
5	Develop Protective Device Standards	1, 2 & 6	$2,100
6	Perform Voltage Drop Studies	1, 2 & 5	$2,000
7	Evaluate VAR Correction Effectiveness	1, 2 & 7	$9,600
8	Determine Fault Locator Placement	1, 2 & 8	$12,900
9	Evaluate N-0 and N-1 System Contingencies		$6,500
10	Prepare Power System Studies Report	9, 10 & 11	$26,000
	TOTAL		595.800



R. W. Beck will provide the Scope of Services included in Section 1 of this proposal for a fixed fee of Ninety-Five Thousand Eight-Hundred Dollars **($95,800).** as detailed above. This amount is inclusive of labor, materials, and all other associated expenses and travel. This proposal will remain valid for **90** days from December **10,2008.**

Derny Bucaneg (Lodi EUD)

From:	Rupp, Steven [SRupp@rwbeck.com]
Sent:	Monday, March 16,2009 10:47 AM
To:	Demy Bucaneg (Lodi EUD); Weldat Haile (Lodi EUD)
cc:	Mullen, Keith
Subject:	Proposal for Power System Analysis
Attachments:	City of Lodi (CA) Power Systems Studies Proposal 1208.pdf

Messrs. Bucaneg and Haile:

This email serves as notification that the pricing in our December 8, 2008 proposal to provide a power system study will remain in effect until June 1,2009. Please let me know if you have questions regarding this. We look forward to working with you.

Best regards,

Steve

Steven S. Rupp
Vice President

Office 916.614.8246 Cell 916.390.0432
2720 Gateway Oaks Drive, Suite 310 Sacramento, CA 95833

RESOLUTION NO. 200940

A RESOLUTION OF THE LODI CITY COUNCIL AWARDING CONTRACT TO SOLE BIDDER, R.W. BECK, INC. TO PERFORM POWER SYSTEMS STUDY

WHEREAS, in answer to notice duly published in accordance with law and the order of this City Council, sealed bids were received and publicly opened on December 10, 2008, at 11:00 a.m., for the power system studies on the existing 12kV electric distribution system, four substations, and 60kV transmission lines as described in the specifications therefore approved by the City Council on August 6, 2008; and

WHEREAS, said bids have been compared, checked, and tabulated and a report thereof filed with the City Manager as follows:

MILSOFT Utility Solution, Abilene, TX	No bid
R.W. Beck, Sacramento, CA	$95,800.00
EET INC., Citrus Heights, CA	No bid
Auriga Corporation, Milpitas, CA	No bid
Stantec Consulting, Inc., Walnut Creek, CA	No bid
Source One, Inc., Boston TX	No bid

WHEREAS, staff reviewed the sole bid price and found it to be reasonable based on past experience.

NOW, THEREFORE, BE IT RESOLVED that the Lodi City Council does hereby approve the award of professional services contract to R. W. Beck, Inc., of Sacramento, CA, the sole bidder, to perform power systems studies on the existing 12kV electric distribution system, four substations, and 60kV transmission lines in the amount not to exceed $95.800.

Dated: April 15, 2009

I hereby certify that Resolution No. 2009-40 was passed and adopted by the City Council of the City of Lodi in a regular meeting held April 15, 2009, by the following vote:

AYES: COUNCIL MEMBERS – Hitchcock, Johnson, Katzakian, and Mayor Hansen

NOES: COUNCIL MEMBERS – None

ABSENT: COUNCIL MEMBERS – Mounce

ABSTAIN: COUNCIL MEMBERS – None

RANDI JOHL
City Clerk